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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/100,569	06/19/1998	MICHAEL E BURKE	CASE-2-1-3-2	8701

27771 7590 05/17/2002

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EXAMINER

LIU, SHUWANG

ART UNIT	PAPER NUMBER
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2634

DATE MAILED: 05/17/2002

11

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/100,569

Applicant(s)

BURKE ET AL.

Examiner

Shuwang Liu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03/04/2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 18) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1 and 11 have been considered but are moot in view of the new ground(s) of rejection.

Specification

2. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: it does not appear to describe "transmitting to the source of the received signal a new power transmission level of the received signal based on the level of the desensitization signal" as recited in claim 1, lines 11-13 and "means for transmitting to the source of the received signal a new power transmission level of the received signal based on the level of the desensitization signal" as recited in claim 11, lines 14-16.

Claim Objections

3. Claims 1-17 are objected to because of the following informalities:

Claim 1 recites the limitation "said signal level" in line 5, and claim 11 recites the limitation "the signal level" in line 9. The examiner suggests changing both limitations to —the level of said received signal—or —a received signal level—in order to have sufficient antecedent basis for the limitations in the claims.

Appropriate correction is required.

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Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-3, 10-12, 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jin et al. (US 6,304,561) in view of Weaver, Jr. et al. (US 5,475,870, in paper #7).

As shown in figures 2-4, Jin et al. discloses a method and receiver for receiving a signal on a receive path of a receiver, comprising:

(1) regarding claim 1:

injecting a desensitization signal (outputted from 114 in figures 2 and 3) into said receive path (signal path) to raise the noise level of said receive path relative to a signal level without attenuating the received signal on the receive path so as to desensitize the receiver (column 3, lines 28-33); and

dynamically adjusting the power level (controlled by 112 and 120) of the desensitization signal based on changing system operating parameters of the wireless communication system (column 3, line 35-column 5, line 6).

(2) regarding claim 3:

providing a noise source (116, 116, and figure 4) as said desensitization.

(3) regarding claim 10:

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coupling (adders) said desensitization signal onto said receiver path.

(4) regarding claim 11:

a desensitization signal source (114 in figures 2 and 3) that is capable of producing a desensitization signal on a desensitization signal path;

a coupler (adders) connected to said desensitization signal path and said receive path and injects said desensitization signal (outputted from 114 in figures 2 and 3) into said receive path (signal path) to raise the noise level of said receive path relative to a signal level without attenuating the received signal on the receive path so as to desensitize the receiver (column 3, lines 28-33); and

means (112 and 120) for dynamically adjusting the power level of the desensitization signal based on changing system operating parameters of the wireless communication system (column 3, line 35-column 5, line 6).

(5) regarding claim 12:

said desensitization signal source (114) comprises a noise source (116, 116, and figure 4) as said desensitization.

(6) regarding claim 17:

wherein said communication signal (received from 100 in figure 1) on said receive path being in the form of digitized I/Q signal (output from 104) at a baseband frequency, said desensitization signal source producing a pseudo-random noise sequence (122 in figure 4) as said desensitization signal (column 5, lines 7-15); and said coupler (adders) summing said pseudo-random noise sequence with said digitized I/Q signal to desensitize said receiver (see figure 3).

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Jin et al. discloses all of the subject matter as described above except for specifically transmitting to the source of the received signal a new power transmission level of the received signal based on the level of the desensitization signal as recited in claims 1 and 11.

Weaver, Jr. et al., in the same field of endeavor, teaches a power control in a CDMA system, comprising transmitting to the source of the received signal a new power transmission level of the received signal based on the level of the desensitization signal (column 3, lines 37-66, column 5, lines 53-66, column 10, lines 32-40, column 11, lines 21-54, and column 17, lines 47-56).

One skilled in the art would have clearly recognized that in the CDMA system, the power level transmitted by the mobile station is controlled by the base station in order to those both near to and far from the base station have the same power level at the receiver, and therefore an equal chance to acquire the network resources. It would have been obvious to one of ordinary skill in the art at the time of the invention to include power control as taught by Weaver, Jr. et al. in the receiver of Jin et al. so that the mobile stations have an equal chance to acquire the network resources, maintain a good quality link to the base station, and keep longer battery life of the mobile stations.

(8) regarding claims 2 and 16:

Jin et al. and Weaver, Jr. et al. disclose all of the subject matter except for including an amplifier on the receive path, which coupler located on said receive path after the output of said amplifier.

However, Jin et al. discloses analog processing 102 shown in figure 1 (column 3, lines 1-12). Although Jin et al. does not specifically teach a amplifier included in the analog processing block, it is well known in the art that the analog processing comprises a amplifier after the signal received by the antenna 100 in order to amplify the weaker signal for further process. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have specifically used "the amplifier" in the analog processing block of Jin et al. so as to provide amplified signal for easier recovering the transmitted signal in communication system.

6. Claims 4, 9, 13 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jin et al. (US 6,304,561) and Weaver, Jr. et al. (US 5,475,870, in paper #7) as applied to claims 1 and 11 above, further in view of Hall et al. (US 5,519,888, in paper #3).

(1) regarding claims 4 and 13:

Jin et al. and Weaver, Jr. et al. disclose all of the subject matter as described above except for specifically including a continuous wave signal source producing a continuous wave signal on the desensitization path.

Hall et al. teaches a receiver comprising a continuous wave signal source (16 in figure 4) producing a continuous wave signal on the desensitization path.

One skilled in the art would have clearly recognized that to use different noise sources is merely a matter of design choice. For example, it may reduce cost to use a continuous wave signal on the desensitization path. As shown in figure 4, Hall et al.

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teaches the noise source is a continuous wave signal (16). Hall et al. also teach another embodiment (figure 9) in which the noise source is a pseudo-noise sequence. The limitations in claims do not define a patentably distinct invention over that in the receiver of Jin et al. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to replace the noise source of Jin et al. by a continuous wave signal on the desensitization path as taught by Hall et al. so as to provide a common noise source and reduce cost in communication system.

(2) regarding claims 9 and 15:

Jin et al. and Weaver, Jr. et al. disclose all of the subject matter as described above except for including an attenuator on said desensitization path as recited in claims.

Hall et al. teaches a receiver comprising an attenuator (13 in figure 4) on said desensitization path, which receives and adjusts the level of a desensitization signal on a desensitization signal path.

It is desirable to have controllable and adjustable noise levels by using an attenuator in order to have desired other user noise and control the power level of the receiver (abstract of Hall et al.). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have specifically used "the attenuator" as taught by Hall et al. in the noise path of Jin et al. so as to provide controllable, adjustable, and desirable noise level injected in the receive path for optimal control of the power level of the receiver.

7. Claims 5-7 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jin et al. (US 6,304,561) and Weaver, Jr. et al. (US 5,475,870, in paper #7) as applied to claims 1 and 11 above, further in view of Hergault et al. (US 5,617,240).

Jin et al. and Weaver, Jr. et al. disclose all of the subject including I/Q noise sources (118 and 116). Jin et al. does not disclose the receiver comprising a continuous wave signal source, a modulating signal source, and a modulator as recited in claims.

One skilled in the art would have clearly recognized that to use different noise sources, for example, a continuous wave signal source or a modulating signal source is merely a matter of design choice. Hergault et al. teaches the receiver comprising a continuous wave signal source (4 and 8 in figure 1), a modulating signal source (6), and a modulator (mixer) (5 and 9) as recited in claims.

It is desirable to allow good slaving precision and protection with respect to jamming or other stray signals by using the modulating (pilot) signal to inject to the receive path. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to replace the noise source of Jin et al. by the modulated continuous wave signals (I/Q) on the desensitization path as taught by Hergault et al. so as to provide good slaving precision and protection with respect to jamming or other stray signals by using the modulating (pilot) signal to inject to the receive path.

8. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jin et al. (US 6,304,561), Weaver, Jr. et al. (US 5,475,870, in paper #7), and Hergault et al. (US

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5,617,240) as applied to claim 5 above, further in view of Hall et al. (US 5,519,888, in paper #3).

Jin et al. Weaver, Jr. et al., and Hergault et al. disclose all of the subject matter as described above except for including an adjustable attenuator on said desensitization path as recited in claim.

Hall et al. teaches a receiver comprising an attenuator (13 in figure 4) on said desensitization path, which receives and adjusts the level of a desensitization signal on a desensitization signal path.

It is desirable to have controllable and adjustable noise levels by using an attenuator in order to have desired other user noise and control the power level of the receiver (abstract of Hall et al.). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have specifically used "the attenuator" as taught by Hall et al. in the noise path of Jin et al. so as to provide controllable, adjustable, and desirable noise level injected in the receive path for optimal control of the power level of the receiver.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shuwang Liu whose telephone number is (703) 308-9556.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin, can be reached at (703) 305-4714.

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Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

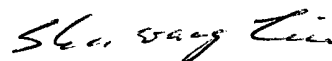
Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.



Shuwang Liu
May 9, 2002